



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION III
1650 Arch Street
Philadelphia, Pennsylvania 19103-2029

24 SEP 2009

Colonel Robert D. Peterson
District Engineer
U.S. Army Corps of Engineers
Huntington District
502 Eighth Street
Huntington, West Virginia 25701-2070

Re: PN LRH 2008-73-OHR; Argus Energy WV, LLC;
East Fork South Surface Mine

Dear Colonel Peterson:

The U.S. Environmental Protection Agency (EPA) has reviewed the U.S. Army Corps of Engineers (Corps) public notice for Argus Energy's proposal to discharge dredged and/or fill material into a total of 4,371 linear feet of waters of the United States for the construction, operation, and reclamation of the East Fork South Surface Mine. To extract 810,787 tons of coal the applicant proposes to utilize contour mining with highwall/auger mining methods. The proposed project involves the construction of three permanent valley fills, two in jurisdictional waters and one in a non-jurisdictional channel permanently impacting 2,839 linear feet of intermittent stream and 165 linear feet of ephemeral stream. Four temporary sediment control ponds will be constructed impacting 1,126 linear feet of intermittent stream. Contour mining activities will impact 205 linear feet of intermittent stream channel and 36 linear feet of ephemeral stream channel. The applicant has proposed to compensate for unavoidable impacts through the re-establishment, enhancement and creation of aquatic resources on and off site.

The project is proposed in unnamed tributaries of East Fork Twelvepole Creek which flows into Twelvepole Creek. There are current mining activities within the East Fork Twelvepole Creek sub-watershed. Adjacent to this proposed project is the reclaimed and bond released Honey Branch Surface Mine (S-5027-87) and the reclaimed and bond released Open Fork Surface Mine (S-5045-88). Across East Fork of Twelvepole is the existing Wiley Branch Surface Mine (S-5039-96) and the Laurel Branch Surface Mine (S-5012-99). The proposed mine represents a total of 74.4 acre operation, with a proposed post mining landuse of Forestland. In EPA's review of this proposed project we are concerned that the project as proposed may not comply with the Clean Water Act Section 404(b)(1) Guidelines. Specific areas of concern include potential cumulative impacts within the sub-watershed, potential significant degradation of water quality, an adequate alternatives analysis to ensure avoidance and minimization of the water resources, and the proposed mitigation plan.

The Clean Water Act Section 404(b)(1) Guidelines (40 C.F.R. Part 230) provide the substantive environmental criteria against which this application must be considered.



Alternatives Analysis – 40 CFR 230.10(a)

According to the Section 404(b)(1) Guidelines, only the least environmentally damaging practicable alternative (LEDPA) can be permitted, and to identify the LEDPA, the applicant's alternatives analysis must examine a full range of alternatives that would avoid and minimize impacts to aquatic resources to the maximum extent practicable. Full consideration of alternatives under 230.10(a) not only includes geographic siting, but also alternatives in design. Such design modifications for this proposal, for example, could include further backstacking material, where appropriate from a mining safety and stability standpoint to reduce the number of fills on site; the use of side hill fills in combination with stream relocation; and fill construction that does not utilize mineral rich overburden and reduces contact time with water. These and other best management practices that could be identified by the applicant which would reduce impacts to aquatic resources and protect water quality should be considered. To comply with the Guidelines' requirements on alternatives analysis, EPA recommends that the applicant clearly demonstrate why less damaging alternatives are not practicable, and that the Corps conduct a full analysis which evaluates not only geographic alternatives, but design and technology alternatives which avoid impacts to aquatic resources to the maximum extent practicable.

The alternative analysis provided by the applicant looked at different mining methods and fill placement options. There are several adjacent mines in the area, both reclaimed and active. EPA requests that the applicant provide a detailed analysis explaining why alternatives with haul distances of more than a half mile radius are not considered practicable for this project. The applicant considered the adjacent mine sites that have been bond released as not a practicable alternative for fill disposal. It is unclear in the documentation as to why these sites are not viable alternatives for that reason, and EPA requests that the applicant provide further information on whether these sites are practicable, regardless of the complete bond release, for fill placement to further avoid and minimize impacts to aquatic resources.

Compliance with Other Environmental Standards – 40 CFR 230.10(b)/Significant Degradation of the Aquatic Ecosystem – 230.10(c)

230.10(b)(1) of the CWA Section 404(b)(1) Guidelines states that "no discharge of dredged or fill material shall be permitted if it causes or contributes, after consideration of disposal site dilution and dispersion, to violation of any applicable State water quality standard." The Guidelines, at 230.10(c) also prohibit any discharge of dredged or fill material which would cause or contribute to significant degradation of the aquatic ecosystem, with special emphasis placed on the persistence and permanence of effects, both individually and cumulatively. Based on information currently available, EPA believes this project may result in significant degradation and/or excursions from State water quality standards. Published studies indicate the activities proposed by the applicant, surface mining with valley fills in Central Appalachia, are strongly related to downstream biological impairment, as indicated by raw taxonomic data, individual metrics that represent important components of the macroinvertebrate assemblage, or when multi-metric indices are considered. These studies show that surface mining impacts on aquatic life are strongly correlated with ionic strength in the Central Appalachian stream networks. Downstream of valley fill overburden disposal sites, specific conductance and component ions can be elevated as much as 20 to 30 times over the background levels observed at un-mined sites. This increase in conductivity impairs aquatic life use, is persistent over time, and cannot be easily mitigated or removed from stream channels. EPA believes these aquatic life use impairments can rise to a level of significant degradation and/or may



result in a violation of West Virginia's narrative water quality standard and may violate the CWA's antidegradation policy.

As stated above, the proposed project is located within the East Fork Twelvepole Subwatershed and the Twelvepole Creek Watershed. The Twelvepole Creek Watershed is listed on the State's CWA 303(d) list for biological impairment, iron, and fecal coliform and is currently undergoing the development of an approved total maximum daily load (TMDL). East Fork Twelvepole is listed for biological impairments. Data provided by the applicant shows that the unnamed tributaries of East Fork Twelvepole, where the fills 1 and 2 are to be placed, are of high quality with excellent biota. The WVSCI scores for fills 1 and 2 were 92 and 79 respectively, and each stream had a specific conductance of less than 50 $\mu\text{S}/\text{cm}$. Data from other similar contour projects in the Upper East Fork watershed demonstrate that degradation of these streams may be likely. Nearby Vance Branch shows elevated conductivity of greater than 2000 $\mu\text{S}/\text{cm}$ and Upper Copley Trace was measured at 939 $\mu\text{S}/\text{cm}$ in April, 2009. As stated above, elevated conductivity levels are strongly correlated with adverse impacts on aquatic life in post-mining areas. Based on this information from similar mine sites, EPA is concerned that the project may adversely affect the naturally occurring and currently healthy aquatic community and that those impacts may be sufficient to rise to the level of significant degradation and/or an excursion from water quality standards.

EPA recommends that the applicant provide recent water quality monitoring and macroinvertebrate data from similarly owned operations adjacent to the East Fork South Surface Mine. In addition, an analysis should be conducted to determine whether the project has the potential to cause or contribute to significant degradation and/or excursions from water quality standards. The analysis should consider effects on water chemistry, including metals, pH, alkalinity, total suspended solids, total dissolved solids, and conductivity, and on the naturally occurring aquatic community. The analysis also should consider baseline pre-mining and post-mining water quality and biological data and post-mining data from streams downstream from other surface coal mining operations within the 12-digit hydrologic unit code of the proposed project in order to predict likely post-mining water quality changes due to the proposed permit. The analysis should, at a minimum, utilize the bioassessment tools utilized by West Virginia to identify impaired waters and candidate stressors pursuant to Section 303(d) of the Clean Water Act, including index periods, field and laboratory methods, and numbers of samples required to assess aquatic life uses. The analysis must consider whether any waters within the watershed are identified as impaired or threatened on the State's Section 303(d) list and whether any total maximum daily loads have been established. All biological and chemical data collected at the project site and the adjacent mine site should be submitted to the Corps and EPA for review.

Should a permit be warranted at this proposed project location, EPA recommends that the Corps ensure measures are in place prior to the placement of fill in waters of the U.S. to assure that significant degradation and/or an excursion of the State's water quality standards do not occur, including excursions of the narrative standard. We also recommend that the permit be conditioned to require appropriate instream monitoring, effluent consideration of the discharge below the valley fills, and monitoring of the effluent. Should the monitoring show an excursion from the narrative water quality standards and/or significant degradation as defined at 40 C.F.R. § 230.10(c) at points downstream from the valley fills mining must stop until the excursions can be remediated. This is to ensure that discharges associated with the project do not cause excursions from applicable water quality standards at points downstream from the valley fills, and thus are not inconsistent with that requirement in the Section 404(b)(1) Guidelines.



Minimization and Compensation for Unavoidable Impacts – 230.10(d)

On March 31, 2008, EPA and the Corps issued revised regulations governing compensatory mitigation for authorized impacts to wetlands, streams, and other waters of the U.S. under Section 404 of the Clean Water Act. This regulation clearly affirms the requirement to adhere to the mitigation sequence to first avoid impacts to waters of the U.S., followed by minimizing any remaining impacts, and only then compensating for all unavoidable impacts. As stated earlier, EPA believes that based on the information contained in the PN and additional information as provided by the applicant, opportunities exist to further avoid and minimize impacts, and these opportunities should be explored before any discussion of compensation. However, the applicant provided a conceptual mitigation plan for review and therefore comments are offered.

The applicant states in the permit support documentation that they intend to supply mitigation at a 1:1 ratio utilizing a combination of on-site stream creation and re-establishment and off-site stream creation and restoration. Additionally, a 0.10 acre wetland will be developed from an on-site bench pond. The applicant has applied the Interim Functional Assessment Approach (IFAA) method. To compensate for lost functions of the aquatic resource an accurate assessment of the existing conditions must be performed. EPA is concerned that the streams on-site may actually be perennial streams. For example, where fills 1 and 2 are proposed to be located, the benthic data showed that the dragonfly *Cordulegaster* was found in both locations. This species lives two to three years in its larval stage, thus requiring more than intermittent flow. In addition, Fill 1 drains an approximate 62 acre watershed and Fill 2 drains an approximate 84 acre watershed. A USGS study has found that perennial flows can occur in 40 acre drainages in the Central Appalachians. Fill 3 drains a 30 acre watershed, and that same study found that intermittent flow can begin in as small as a 15 acre drainage area.

While the use of sediment ditches and NPDES outlets to create connectivity channels may somewhat compensate for loss of structural and hydrological function, it has not been established that these practices compensate for lost biological and chemical functions. If the biological and chemical functions are not properly restored, these created waters can end up being assessed as impaired and included on the 303(d) list and ultimately requiring TMDL development and become sources of pollution themselves. It is not clear that the mitigation achieves functional replacement or mitigates the impacts from this project below significance.

Any approved mitigation should ensure the replacement of the lost functions and services of the impacted streams within the sub-watershed (12-digit hydrologic unit code) and incorporate performance standards that include restoration of observable or measurable physical, chemical, and biological criteria within a reasonable timeframe to determine if the compensatory mitigation project meets its objectives. To ensure full compensation for lost functions, EPA encourages the mitigation project be in place prior to the discharge of fill material. In addition, other opportunities to improve the overall watershed should be explored. Consideration of proposals that include watershed improvements as part of an overall mitigation strategy should be made. Finally an adaptive management plan that identifies alternate plans and strategies should the desired goals not be achieved should be included in the development of a final compensatory mitigation plan.

Determination of Cumulative Effects on the Aquatic Ecosystem – 230.11(g)

The Section 404(b)(1) Guidelines require consideration of cumulative impacts: “[A]lthough the impact of a particular discharge may constitute a minor change in itself, the cumulative effect of numerous such piecemeal changes can result in a major impairment of the water resources and



interfere with the productivity and water quality of the existing aquatic ecosystem.” The data provided by the applicant indicates that the streams proposed to be filled are high quality headwaters streams. Headwaters streams are vital components of the aquatic ecosystem. Headwaters streams collectively provide high levels of water quality and quantity, sediment control, nutrients, and organic matter, and as a result, are largely responsible for maintaining the quality of downstream riverine systems. Even though ephemeral and intermittent streams may go dry during a portion of the year, they continue to provide habitat for macroinvertebrates and amphibians that utilize the interstitial water flows in the substrate below the stream.

In addition, the streams in the project area are providing clean freshwater dilution to the impaired East Fork Twelvepole Creek. EPA recommends that the Corps conduct a thorough cumulative effects analysis which includes a detailed presentation of past, present and reasonably foreseeable activities, fully analyzes the current state of the aquatic ecosystem and considers of the affects on the human environment including impacts to the subwatershed from the filling of streams that currently provide freshwater dilution and potential impacts private drinking wells and other drinking water supplies. This analysis should include at a minimum the cumulative effects of all reasonably foreseeable activities on water quality, loss of stream function and habitat and the effects of the hydrologic modifications to the watershed. It should also address the impact of deforestation on water quality, water quantity, and overall ecological conditions within the watershed. To the extent the Corps relies upon the State's Section 401 Certification or a Cumulative Hydrologic Impact Analysis ("CHIA"), the Corps' analysis should identify the specific language (including not only the conclusions but the underlying analysis) within the Section 401 Certification and/or CHIA that is relevant to the Corps' cumulative impact analysis.

In conclusion, EPA believes that the project as proposed may not comply with the Section 404(b)(1) Guidelines and recommends that additional avoidance and minimization efforts be considered to reduce impacts to waters of the U.S. EPA believes that the project may adversely affect water quality, resulting in an impairment of the local and downstream aquatic life use, and that the project's direct and cumulative impacts may be persistent and permanent and cause or contribute to significant degradation of the aquatic ecosystem. Should you have any questions please feel free to contact Ms. Jessica Martinsen at 215-814-5144 or by email at martinsen.jessica@epa.gov.

Sincerely,



Samantha Beers, Acting Deputy Director
Environmental Assessment and Innovation Division

